



Cornell's Dr. Krysten Schuler warns federal government committee of dangers of chronic wasting disease, advocates for preventive measures

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To offer her expert testimony and recommendations on chronic wasting disease, wildlife disease ecologist Dr. Krysten Schuler of the College of Veterinary Medicine joined the U.S. House of Representatives Committee on Natural Resources for their June 25 subcommittee hearing on this deadly disease. Photo provided.

After a brush with chronic wasting disease (CWD) in two captive deer herds in 2005, New York became the only state to successfully prevent the disease's further spread within its borders. Other states, however, haven't been so fortunate. Pennsylvania, Ohio, Texas and many others are seeing this deadly disease with increasing frequency.

To offer her expert testimony and recommendations on the subject, wildlife disease ecologist Dr. Krysten Schuler of the College of Veterinary Medicine joined the U.S. House of Representatives Committee on Natural Resources for their June 25 subcommittee hearing, "Chronic Wasting Disease: The Threats to Wildlife, Public Lands, Hunting, and Health."

"Chronic wasting disease is the most serious threat facing wild deer and elk populations in North America today," said Schuler, who has been studying the disease since 2002. In that time, she has seen CWD spread to a total of 26 states, four Canadian provinces and four countries outside of North America: Finland, Norway, South Korea and Sweden.

“Its presence in wild animals makes it unique and exceedingly difficult to study,” said Schuler. CWD was detected in captive cervid herds in 1967 and then in wild North American cervids in 1978. The cervid family comprises members of the deer family, such as deer, reindeer and elk. This highly contagious disease degrades the animal’s neurological system, leaving holes in the brain. Animals may be infected for a year or more before displaying symptoms, which include losing its fear of people, drooling, weight loss, thirst and poor coordination. It is fatal in all cases, as there are no vaccines, antibiotics, cures or treatments. Infected animals are also more likely to be killed by a predator, hunter or vehicle.



Prior to 2000, chronic wasting disease was found in wild cervids in only four states and captive cervids in one state and one province. By 2002, CWD moved east of the Mississippi River to Wisconsin. Since that time, it has been found in 26 states and four Canadian provinces (Toronto Zoo, Ontario not shown). Image credit: [Cornell Wildlife Health Lab](#)

Deadly and nearly impossible to eradicate

CWD is in the family of universally fatal diseases known as transmissible spongiform encephalopathies, caused by a misfolded protein called a prion, Schuler explained to the committee. Prions are resilient pathogens resistant to high heat and harsh chemicals. They transmit efficiently from animal-to-animal or through contaminated environments. Even an infected animal’s regular body fluids, like urine and blood, contaminate the ground — and these prions bind to soil particles and remain in the environment for up to 16 years.

Prions can also bind to plant tissues; alfalfa, wheat, corn and tomatoes are all crops that have tested positive so far. This may be the root of exposure for wildlife, domestic animals and humans, said Schuler.

Although there are no known cases of CWD in people, there is concern that the prions could adapt to new hosts and someday infect humans, just as the prion culprit of mad cow disease did in the United Kingdom in the 1990s.

“It is the similarity between CWD and bovine encephalopathy, or mad cow disease, that is most concerning,” said Schuler. “Over 4.5 million cows were killed in the United Kingdom and 231 people died after eating infected beef.”

The Centers for Disease Control and Protection have therefore issued recommendations that people not knowingly consume CWD-positive venison, and that anyone hunting in a CWD-positive area have their animal tested before consumption.

"Once CWD becomes established in a population, it is nearly impossible to eradicate."

— Dr. Kysten Schuler, wildlife disease ecologist

“Once CWD becomes established in a population, it is nearly impossible to eradicate. Therefore, it’s critical that we follow a precautionary principle in dealing with CWD, and take preventative action in the face of uncertainty,” advised Schuler.

Schuler and her colleagues at the New York State Wildlife Health Program have done just that for New York. She and Dr. Elizabeth Bunting, a wildlife veterinarian at Cornell, have worked together since the start of the program to spearhead training for those who come into contact with animals in the field, such as biologists, law enforcement officials and even taxidermists — not just to monitor for CWD, but for plenty of other diseases and conditions as well.

“New York has maintained an aggressive stance toward CWD and continues to serve as a model for programs in other states,” said Schuler.

Recommendations for curbing the spread of disease

Because the disease is present in wildlife and can contaminate the environment for long periods of time, it is unlikely that North America can eradicate CWD completely. Therefore, prevention and management are key. “Large sections of the country have not encountered CWD yet and can take steps to keep prions out,” said Schuler, pinpointing the biggest hurdles to doing so as the natural movement of live infected cervids and the transportation of their parts and products by hunters and others.

In her testimony to the committee and in answer to their subsequent questions, Schuler offered recommendations for combating the spread of CWD, including sustained fiscal support for state and federal wildlife agencies, as well as veterinary and wildlife diagnostic labs; research funds to work toward new breakthroughs in treatment and prevention; and improved support from stakeholders up through their elected officials to raise the disease to a national level of prominence.



Subcommittee witnesses from left: Dr. Krysten Schuler, Jason Summers, Carter Smith and Nick Pinizzotto. Photo provided.

“At its core, CWD erodes our public trust resources,” said Schuler.

“Any meaningful strategies to combat CWD will require long-term approaches with sustained state and federal efforts.”

Schuler’s written testimony is [available online](#), and the House Natural Resources Committee Democrats [livestreamed the proceedings on YouTube](#).

By Melanie Greaver Cordova